

REMARKS

Claim 1 is amended herein to recite an isolated nucleic acid molecule consisting essentially of a nucleic acid sequence that is at least ten contiguous nucleotides of SEQ ID NO:6 or SEQ ID NO:1, wherein the sequence includes a particular nucleotide position of SEQ ID NO:6 or SEQ ID NO:1, with the proviso that the identity of the nucleotide at the recited position is as recited in the claim. Claims 3-12 are amended herein for consistency with claim 1. Further, new claims 38-41 are added herein. Claims 38 and 39 recite lengths for the isolated nucleic acid molecule of claim 1. Claim 40 recites a vector containing the isolated nucleic acid molecule of claim 1, and claim 41 recites a length for the isolated nucleic acid molecule of claim 40. In addition, claims 2, 16, and 34-37 are canceled herein without prejudice, and claims 13-15 and 17-33 are withdrawn.

Applicants' specification fully supports the claims as amended. For example, Applicants' specification discloses that nucleic acid molecules (a) can have a length from about 8 nucleotides to greater than 1000 nucleotides (e.g., 10 nucleotides, 20-50 nucleotides, or 50-100 nucleotides); (b) can include, *inter alia*, a nucleotide sequence variant such as a guanine substitution for adenine at position 26 relative to the adenine of the *PNMT* translation initiation codon, an guanine substitution for adenine at position 292 relative to the relative to the adenine of the *PNMT* translation initiation codon, a thymine substitution for cytosine at position 334 relative to the adenine of the *PNMT* translation initiation codon, a thymine substitution for cytosine at position 153 relative to the adenine of the *PNMT* translation initiation codon, and/or a guanine substitution for adenine at position 456 relative to the adenine of the *PNMT* translation initiation codon; and (c) can be complementary to a *PNMT* reference sequence. *See, e.g.*, Applicants' specification at page 8, lines 23-28, page 10, line 7-16 to page 11, line 16, and page 32 (Table 2). These sections of the specification and Figures 1 and 2 also disclose, *inter alia*, that position 26 relative to the adenine of the *PNMT* translation initiation codon corresponds to nucleotide 32 of SEQ ID NO:6, position 292 relative to the adenine of the *PNMT* translation initiation codon corresponds to nucleotide 298 of SEQ ID NO:6, position 334 relative to the adenine of the *PNMT* translation initiation codon corresponds to nucleotide 340 of SEQ ID

NO:6, position -591 relative to the adenine of the *PNMT* translation initiation codon corresponds to nucleotide 1102 of SEQ ID NO:1, and positions 940 and 941 relative to the adenine of the *PNMT* translation initiation codon correspond to nucleotides 3692 and 3693 of SEQ ID NO:1. In addition, Applicants' specification at page 15, line 10 to page 16, line 2 discloses that nucleic acids can be incorporated into vectors. Thus, no new matter has been added.

Applicants note that nucleic acid molecules "consisting essentially of" the recited sequences have the basic and novel characteristic that they are able to distinguish, based upon hybridization, a nucleic acid having a *PNMT* sequence that contains a variant from a nucleic acid having a sequence that does not contain the variant *PNMT* sequence (e.g., SEQ ID NO:1 or SEQ ID NO:6). See, for example, page 21, line 26 to page 22, line 11, and page 22, line 27 to page 23, line 11, which disclose methods for allele-specific hybridization and allele specific amplification. Applicants further note that the claimed nucleic acid molecules can include additional sequences or labels (e.g., a fluorescent label as disclosed at page 22, lines 23-24 of Applicants' specification), provided that such additions do not affect the basic and novel characteristic of the nucleic acid molecules.

CONCLUSION

Applicants ask that claims 1, 3-12, and 38-41 be examined in view of the amendments presented herein. Applicants believe that no fee is due. Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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